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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,274	05/10/2001	Kazunori Ozawa	Q64424	5444

7590 11/29/2004

SUGHRUE, MION, ZINN, MACPEAK & SEAS  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3202

EXAMINER

OPSASNICK, MICHAEL N

ART UNIT	PAPER NUMBER
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2655

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/852,274

**Applicant(s)**

OZAWA, KAZUNORI

**Examiner**

Michael N. Opsasnick

**Art Unit**

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
- Paper No(s)/Mail Date 2/17/2004 + 3/4/2004 *MMO*

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4,7,8,10-13,16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adoul et al (5754976) in view of Ozawa (5857168).

Adoul et al (5754976) teach speech encoding comprising:

- Calculating spectral parameters (LPC coefficients, Fig. 1, element 102);
- Converting them into impulse responses (synthesis filter, Fig. 1, element 105);
- Representing an excitation signal by a combination of a plurality of pulses having nonzero amplitudes and implies quantizing them by use of said synthesis filter (col. 2 lines 50-58);
- By calculating the distortion between each of the plurality of pulses (implies by optimizing controller, Fig. 1, element 109);
- Outputs judgment codes representative of the selected set of pulses (best codevector, col. 13 lines 25-26);
- Multiplexes the various speech coding parameters (col. 8 lines 16-20).

Adoul et al do not calculate a residual signal by use of an adaptive codebook, but instead use a long-term predictor (fig. 1, element 106). However, an artisan at the time of invention would have known that an adaptive codebook. The examiner takes Official Notice that it would have been obvious to one of ordinary skill at the time the invention to use an adaptive codebook in connection with the extracted with Adoul et al's extracted pitch value (Fig. 1, element 104), rather than the long-term predictor of Adoul et al, because this is notoriously well-known to be a more convenient way to handle the pitch portion of the excitation signal (Therefore, CELP coders nowadays use plural excitation codevectors selectively chosen, according to the speech signal properties (speech mode), from adaptive, stochastic, and pulse codebooks).

Adoul does not explicitly teach the plurality of tables to store pulse positions, however, Ozawa (5857168) teaches a plurality of tables indicating the pulse position (col. 4 lines 3-14). Therefore, it would have been obvious to one of ordinary skill in the art of speech coding to modify the structure of Adoul with plural pulse tables because it would advantageously handle the plurality of calculations with a plurality of bands (Ozawa, col. 4 lines 9-15).

As per claims 8 and 17, an artisan at the time of the invention would have known that they recite the obvious decoders for the coders in claims 1-4, which thus are also rejected over Adoul et al.

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- 2a). Claims 5,6,9,14,15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Adoul et al (5754976) in view of Ozawa (5857168) in further view of Mermelstein (6249758).

The combination of Adoul et al (5754976) in view of Ozawa (5857168) does not teach judging (determining) a speech signal mode by extracting features from the speech signal. However, Aoyagi et al do ("coding speech signals by making use of voice/unvoiced characteristics of the speech signal", Title). Therefore, it would have been obvious to one of ordinary skill at the time the invention to judge the speech signal mode so as to best code the excitation for the particular speech frame in terms of the code vectors.

The rest of the elements in these claims are the same and similar to those in claims 1-4,7,10-13, and 16, above, and thus are rejected for the same reasons.

As per claims 9 and 18, an artisan at the time of the invention would have known that they, recite the obvious decoders for the coders in claims 5-6, which thus are also rejected over Adoul et al in view of Mermelstein.

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*Response to Arguments*

3. Applicant's arguments with respect to the claims pertaining to the newly amended claim language have been considered but are moot in view of the new ground(s) of rejection.

*Conclusion*

4. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

5. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks  
Washington, D.C. 20231  
**or faxed to:**

Art Unit: 2655

(703) 872 9314,  
(for informal or draft communications, please label "PROPOSED" or  
"DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121  
Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Opsasnick, telephone number (703)305-4089, who is available Tuesday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To, can be reached at (703)305-4827. The facsimile phone number for this group is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2600 receptionist whose telephone number is (703) 305-4750, the 2600 Customer Service telephone number is (703) 306-0377.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

mno  
11/28/2004

  
11/28/04  
VIJAY CHAWAN  
PRIMARY EXAMINER